

LIST OF SPECIES DESCRIBED IN THE EGG STAGE OF TRIBE AEDINI (DIPTERA: CULICIDAE) WITH THEIR LITERATURE CITATIONS

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ABSTRACT. Species of Aedini with published morphological descriptions and/or illustrations of eggs are listed with their literature citations. Each species has a notation indicating descriptions are written, illustrated or both. Only approximately 16% of aedine species currently have morphological descriptions published for the egg stage. The new classification of tribe Aedini proposed by Reinert et al. (2004) is utilized.

KEY WORDS Aedini, eggs, mosquitoes

INTRODUCTION

Most of the 1,275 species of aedine mosquitoes have morphological descriptions and illustrations of adult females and males (including genitalia), 4th-stage larvae, and often of the pupae. Unfortunately, descriptions of the egg stage have not been published or are unknown for the majority of species of Aedini and also most other Culicidae with the exception of Anophelinae. Descriptions of *Anopheles* Meigen eggs have proven their usefulness in distinguishing closely related species, e.g., the Maculipennis Complex (see Falleroni 1926, Becker et al. 2003) and the Quadrimaculatus complex (see Linley et al. 1993b, Reinert et al. 1997). Additionally, Mattingly (1969a) developed and discussed an evolutionary scheme for the Anophelinae of the Old World based on morphological characters of their eggs.

Because of the limited number of aedine species with published morphological descriptions of the egg stage, or those with very incomplete descriptions and illustrations, this life stage has received little attention for distinguishing aedine taxa at all levels. Eggs of genera *Ochlerotatus* Lynch Arribalzaga and *Psorophora* Robineau-Desvoidy in the New World are known for many species whereas a number of *Stegomyia* eggs are known for species in the Oriental and Australasian Regions. However, numerous species in these and other genera are undescribed in the egg stage. Reinert et al. (2004), in a phylogenetic analysis of tribe Aedini, recognized 46 genera worldwide, but only 27 have the egg described for one or more species. Their proposed classification of tribe Aedini is utilized in this paper.

Published partial or complete descriptions and/or illustrations of the egg stage for species of Aedini are listed below with their literature citations. Morphological descriptions of eggs sometimes are included by the author in keys to species, e.g., Mitchell (1907), Horsfall et al. (1952), and Ross and Horsfall (1965). For a few species described in numerous articles, e.g., *Aedes vexans* (Meigen) and

Stegomyia aegypti (Linnaeus), only selected citations are provided.

The following list contains about 16% of the known aedine species and highlights the paucity of species with descriptions and illustrations of this stage. Additionally, many of the published egg descriptions are incomplete. The absence of information on morphological descriptions of the egg is evident in numerous articles on the taxonomic treatment of Aedini, e.g., Dyar (1928), Edwards (1932, 1941), Barraud (1934), Belkin (1962), Mattingly (1969b), Zavortink (1972), Tanaka et al. (1979), Wood et al. (1979), and Becker et al. (2003). Lack of egg descriptions and information also was recently noted by Reinert et al. (2004: App. 2) in their phylogenetic analysis of tribe Aedini. Until adequate descriptions of more species are published, hopefully with detailed morphological descriptions and illustrations (see articles by Linley and co-authors), this stage can not be utilized to its full potential in mosquito systematics.

References for species listed below include indications of written descriptions (1) and/or illustrations (2).

List of aedine species with egg descriptions

- Aedes bambotai* Geoffroy: Geoffroy (1987) (1,2)
Aedes cinereus Meigen: Marshall (1938) (2), Craig (1956) (2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Hinton (1981) (2), Service et al. (1997) (1,2), Dahl (1997) (2)
Aedes dentatus (Theobald): Linley and Turell (1993) (1,2)
Aedes domesticus (Theobald): Reinert (1972a) (1,2)
Aedes durbanensis (Theobald): Linley and Service (1994) (1,2)
Aedes fowleri (Charmoy): Linley and Turell (1993) (1,2)
Aedes indonesiae Mattingly: Mattingly (1974) (1,2)

- Aedes mediolineatus* (Theobald): Reinert (1973) (1,2)
- Aedes penghuensis* Lien: Matsuo et al. (1974a) (1,2)
- Aedes vexans vexans* (Meigen): Dyar (1902) (1)¹, Mitchell (1907) (1,2)¹, Howard et al. (1913) (2), (1917) (1)¹, Marshall (1938) (2), Craig (1956) (2), Horsfall and Craig (1956) (1,2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Horsfall et al. (1970) (2), Matsuo et al. (1972b) (2), Moriya et al. (1972) (2), (1973) (1,2), Reinert (1973) (1), Horsfall et al. (1973), Hinton (1981) (2), Linley (1990) (1,2), Becker et al. (2003) (2)
- Aedes vexans nipponii* (Theobald): Matsuo et al. (1972c) (1,2), Moriya et al. (1972) (2), (1973) (1,2)
- Alanstonea treubi* (de Meijere): de Meijere (1910) (1,2), Mattingly (1971b) (1,2)
- Armigeres confusus* Edwards: Mattingly (1971a) (1,2)
- Armigeres dentatus* Barraud: Mattingly (1971a) (1,2)
- Armigeres digitatus* (Edwards): Mattingly (1971b) (1,2), Matsuo et al (1974b) (1,2), Okazawa et al. (1991) (1,2)
- Armigeres dolichocephalus* (Leicester): Mattingly (1971b) (1,2)
- Armigeres flavus* (Leicester): Mattingly (1971a) (1,2), Ramalingam (1973) (2)²
- Armigeres inchoatus* (Barraud): Mattingly (1971b) (2)
- Armigeres joloensis* (Ludlow): Banks (1908) (1,2), Mattingly (1971a) (1,2, identification not positive)
- Armigeres maiae* Edwards: Mattingly (1971a) (1)
- Armigeres omissus* (Edwards): Matsuo et al. (1974b) (1,2)
- Armigeres subalbatus* (Coquillett): Mattingly (1971a) (1,2), Matsuo et al. (1972b) (2), (1972c) (1,2), (1974b) (1,2), Moriya et al. (1972) (2), (1973) (1,2), Hinton (1981) (2)
- Armigeres traubi* Macdonald: Mattingly (1971b) (1,2)
- Diceromyia furcifer* (Edwards): Reinert (1972b) (1,2)
- Diceromyia tiptoni* Grjebine: Ravaonjanahary (1978a) (1,2), (1978b) (1,2)
- Downsiomyia albilateralis* (Theobald): Matsuo et al. (1974a) (1,2)
- Edwardsaedes imprimens* (Walker): Moriya et al. (1973) (1,2), Reinert (1976) (1,2)
- Eretmapodites quinquevittatus* (Theobald): Mattingly (1970a) (1,2), Hinton (1981) (2), Linley and Service (1994) (1,2)
- Finlaya oceanica* (Belkin) (?): Buxton and Hopkins (1925, 1927) (1,2)³
- Fredwardsius vittatus* (Bigot): Patton (1905) (1,2)⁴, Theobald (1907, 1910) (2)⁴, Hinton and Service (1969) (2), Hinton (1981) (2)
- Gymnometopa mediovittata* (Coquillett): Howard et al. (1917) (1), Pratt and Kidwell (1969) (1,2), Hinton (1981) (2), Linley and Clark (1989) (1,2)
- Haemagogus capricornii* Lutz: Forattini (1965b) (2), Alencar et al. (2005) (1,2)
- Haemagogus celeste* Dyar and Nunez Tovar: Chadee and Bennett (1990) (1,2)
- Haemagogus equinus* Theobald: Chadee and Bennett (1990) (1,2), Linley and Chadee (1991) (1,2)
- Haemagogus janthinomys* Dyar: Mattingly (1973) (1,2)⁵, Linley and Chadee (1991) (1,2)
- Haemagogus leucocelaenus* (Dyar and Shannon): Alencar et al. (2003) (1, 2)
- Haemagogus lucifer* (Howard, Dyar, and Knab): Mattingly (1973) (1,2)
- Halaedes australis* (Erichson): Linley et al. (1992a) (1,2)
- Heizmannia communis* (Leicester): Mattingly (1971c) (1,2)
- Heizmannia indica* (Theobald): Mattingly (1971c) (1,2)
- Howardina bahamensis* (Berlin): Mattingly (1974) (1,2), Linley (1989b) (1,2)
- Howardina busckii* (Coquillett): Mattingly (1974) (1,2)
- Howardina ioliota* (Dyar and Knab): Suarez and Cova Garcia (1961) (2)
- Howardina sexlineata* (Theobald): Berlin (1969) (1), Mattingly (1974) (1,2)
- Levua geoskusea* (Amos): Reinert (1972c) (1,2)
- Lorrainea amesii* (Ludlow): Matsuo et al. (1974b) (1,2)
- Mucidus alternans* (Westwood): Bancroft (1908) (1), Pillai (1962) (2), Dobrotworsky (1965) (2), Mattingly (1970b) (1,2), Linley et al. (1991c) (1,2)
- Mucidus aurantius* (Theobald): Mattingly (1970b) (1,2), (1971d) (2), Hinton (1981) (2)
- Mucidus mucidus* (Karsch) (?): Mattingly (1970b) (1,2)
- Mucidus quasiferinus* Mattingly: Choochote et al. (1987) (1,2)

¹ Eggs were described by Dyar (1902), Mitchell (1907), and Howard et al. (1913, 1917) under the synonym *sylvestris* Theobald, 1901.

² Illustrations of the eggs of *Armigeres flavus* are displayed on the cover of all four issues of *Mosquito Systematics* for the year 1973. These were provided by S. Ramalingam.

³ Belkin (1962) believed the eggs of *Fl. kochi* (Doenitz) described by Buxton and Hopkins (1927) were probably those of *Fl. oceanica*. Lee et al. (1982) noted that the eggs of *Fl. kochi* described by Buxton and Hopkins (1925, 1927) were probably *Fl. oceanica* but could be, in part, those of *Fl. samoana* Grunberg.

⁴ The species described and illustrated as *Stegomyia sugens* Wiedmann by Patton (1905) is clearly *Fr. vittatus*. Theobald (1907, 1910) copied the egg illustration from Patton (1905).

⁵ The egg described by Mattingly (1973) as *Haemagogus spegazzinii* Brethes is *Hg. janthinomys* Dyar (see Mattingly, 1974:44).

- Mucidus tonkingi* (Gebert): Tyson (1970), Mattingly (1970b) (1,2)
- Neomelaniconion circumluteolus* (Theobald): Gillett (1955) (1), Linley and Turell (1994) (1,2)
- Neomelaniconion lineatopenna* (Ludlow): Banks (1908) (1), Mattingly (1974) (1,2), Choochote et al. (2001) (1,2)
- Neomelaniconion macintoshii* (Huang): Linley and Turell (1994) (1,2)
- Ochlerotatus abserratus* (Felt and Young): Kalpage and Brust (1968) (1,2)
- Ochlerotatus aculeatus* (Theobald): Marks (1949) (1,2)
- Ochlerotatus alboannulatus* (Macquart): Dobrotworsky (1959) (1,2), Pillai (1962) (2), Linley et al. (1991a) (1,2)
- Ochlerotatus annulipes* (Meigen): Hinton (1981) (2)
- Ochlerotatus atlanticus* (Dyar and Knab): Craig and Horsfall (1960) (1,2), Ross and Horsfall (1965) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus atropalpus* (Coquillett): Dyar (1902) (1), Howard et al. (1913) (2), (1917) (1), Craig (1956) (2), Craig and Horsfall (1958) (2), (1960) (1,2), Pratt and Kidwell (1969) (1, 2), Horsfall et al. (1970) (2), Brust (1974) (2), Hinton (1981) (2), Linley and Craig (1994) (1,2)
- Ochlerotatus aurifer* (Coquillett): Craig (1956) (2), Ross and Horsfall (1965) (1,2)
- Ochlerotatus barri* (Rueger): Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2)
- Ochlerotatus berlandi* Seguy: Seguy (1925) (2)
- Ochlerotatus bicristatus* (Thurman and Winkler): Myers (1967) (1,2)
- Ochlerotatus campestris* (Dyar and Knab): Myers (1967) (1,2), Kalpage and Brust (1968) (1,2)
- Ochlerotatus camptorhynchus* (Thomson): Linley et al. (1992a) (1,2)
- Ochlerotatus canadensis* (Theobald): Dyar (1902) (1), Mitchell (1907) (1,2), Howard et al. (1917) (1), Craig (1956) (2), Horsfall and Craig (1956) (1,2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Kalpage and Brust (1968) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus cantans* (Meigen): Dyar (1904a) (1,2), Marshall (1938) (2), Hinton and Service (1969) (2), Hinton (1981) (2), Service et al. (1997) (1,2), Dahl (1997) (2), Becker et al. (2003) (2)
- Ochlerotatus cantator* (Coquillett): Craig (1956) (2), Craig and Horsfall (1960) (1,2)
- Ochlerotatus caspius* (Pallas): Marshall (1938) (2), Hinton (1981) (2), Lambert et al. (1990) (1,2), Linley et al. (1993a) (1,2), Soliman and Linley (1999) (2)⁶
- Ochlerotatus cataphylla* (Dyar): Craig (1956) (2), Myers (1967) (1,2)
- Ochlerotatus churchillensis* (Ellis and Brust): Ellis and Brust (1973) (1,2)
- Ochlerotatus communis* (de Geer): Craig (1956) (2), Craig and Horsfall (1958) (2), Brust and Horsfall (1965) (2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Ellis and Brust (1973) (1,2), Hinton (1981) (2), Dahl (1997) (2)
- Ochlerotatus decitus* (Howard, Dyar, and Knab): Craig (1956) (2), Kalpage and Brust (1968) (1,2)
- Ochlerotatus detritus* (Haliday): Marshall (1938) (2), Hinton (1981) (2), Service et al. (1997) (1,2), Dahl (1997) (2)
- Ochlerotatus diantaeus* (Howard, Dyar, and Knab): Craig (1956) (2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Dahl (1997) (2)
- Ochlerotatus dobrotworskyi* (Marks): Dobrotworsky (1965) (2)
- Ochlerotatus dorsalis* (Meigen): Howard et al. (1917) (1)⁷, Marshall (1938) (2), Craig (1956) (2), Telford (1957) (2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Hinton (1981) (2), Lambert et al. (1990) (1,2)
- Ochlerotatus dupreei* (Coquillett): Mitchell (1907) (1,2), Craig (1956) (2), Horsfall and Craig (1956) (1,2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus euedes* (Howard, Dyar, and Knab): Dahl (1997) (2)
- Ochlerotatus epactius* (Dyar and Knab): Brust (1974) (2), Linley and Craig (1994) (1,2)
- Ochlerotatus excrucians* (Walker): Craig (1956) (2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Moriya et al. (1972) (2), (1973) (1,2), Matsuo (1975) (1,2), Dahl (1997) (2)
- Ochlerotatus fitchii* (Felt and Young): Craig (1956) (2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2)
- Ochlerotatus flavescens* (Mueller): Marshall (1938) (2), Craig (1956) (2), Ross and Horsfall (1965) (1,2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Mattingly (1971d) (2), Hinton (1981) (2), Dahl (1997) (2)
- Ochlerotatus fluviatilis* (Lutz): dos Santos Neto and de Azevedo Marques (1996) (1,2), Forattini (2002) (2)
- Ochlerotatus formosensis* (Yamada): Matsuo et al. (1974a) (1,2)
- Ochlerotatus fulvus* (Wiedemann): Goeldi (1905) (1,2), Theobald (1907) (2), Forattini (1965a) (2)

⁶ Illustrations of the eggs of autogenous and anautogenous members of the *Ochlerotatus caspius* complex from Egypt are displayed on the cover of all four issues of *Medical and Veterinary Entomology* for the year 1999. They were provided by B. A. Soliman and J. R. Linley.

⁷ Howard et al. (1917) attributed the egg of this species to the synonym *currie* Coquillett, 1901.

- Ochlerotatus geniculatus* (Olivier): Mac Gregor (1932) (1), Marshall (1938) (2), Hinton (1981) (2)
- Ochlerotatus grossbecki* (Dyar and Knab): Mitchell (1907) (1,2)⁸, Howard et al. (1913) (2), (1917) (1), Ross and Horsfall (1965) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus hatorii* (Yamada): Matsuo et al. (1972a) (2), Moriya et al. (1972) (2), (1973) (1,2)
- Ochlerotatus hendersoni* (Cockerell): Zaim et al. (1977) (1,2), Linley and Craig (1993) (1,2)
- Ochlerotatus hexodontus* (Dyar): Craig (1956) (2, identification not positive), Craig and Horsfall (1958) (2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Matsuo (1975) (1,2)
- Ochlerotatus impiger* (Walker): Mitchell (1907) (1,2), Craig (1956) (2), Kalpage and Brust (1968) (1,2), Danks and Corbet (1973) (1,2)
- Ochlerotatus implicatus* (Vockeroth): Craig (1956) (2), Craig and Horsfall (1958) (2), Kalpage and Brust (1968) (1,2)
- Ochlerotatus increpitus* (Dyar): Myers (1967) (1,2)
- Ochlerotatus infirmatus* (Dyar and Knab): Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), Craig and Horsfall (1960) (1,2), Hinton (1981) (2), Linley (1990) (1,2)
- Ochlerotatus ingrami* (Edwards): Gillett (1955) (1), (1972) (1)
- Ochlerotatus intrudens* (Dyar): Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Dahl (1997) (2)
- Ochlerotatus japonicus* (Theobald): Matsuo et al. (1972c) (1,2), Moriya et al. (1973) (1,2)
- Ochlerotatus leucomelas* Meigen: Hinton (1981) (2)
- Ochlerotatus melanimon* (Dyar): Myers (1967) (1,2)
- Ochlerotatus melanopterus* (Giles): Matsuo et al. (1974a) (1,2)
- Ochlerotatus mitchellae* (Dyar): Craig and Horsfall (1960) (1,2), Ross and Horsfall (1965) (1,2)
- Ochlerotatus multiplex* (Theobald): Theobald (1903) (2, identification not positive)
- Ochlerotatus nigripes* (Zetterstedt): Kalpage and Brust (1968) (1,2), Danks and Corbet (1973) (1,2), Corbet and Danks (1975) (2), Dahl (1997) (2)
- Ochlerotatus nigrithorax* (Marquart): Dobrotworsky (1965) (2)
- Ochlerotatus nigromaculis* (Ludlow): Craig (1956) (2), Myers (1967) (1,2), Ross and Horsfall (1965) (1), Kalpage and Brust (1968) (1,2), Hinton (1981) (2)
- Ochlerotatus niphadopsis* (Dyar and Knab): Myers (1967) (1,2)
- Ochlerotatus notoscriptus* (Skuse): Linley et al. (1991c) (1,2)
- Ochlerotatus pionips* (Dyar): Dyar (1904c) (1), Craig (1956) (2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Dahl (1997) (2)
- Ochlerotatus procax* (Skuse): Linley et al. (1991b) (1,2)
- Ochlerotatus provocans* (Walker): Dyar (1904c) (1,2), Howard et al. (1917) (1)⁹, Craig (1956) (2)⁹, Kalpage and Brust (1968) (1,2)⁹, Horsfall and Voorhees (1972) (2)⁹
- Ochlerotatus pullatus* (Coquillett): Craig (1956) (2), Myers (1967) (1,2), Horsfall and Voorhees (1972) (2)
- Ochlerotatus punctodes* (Dyar): Craig (1956) (2, identification not positive)
- Ochlerotatus punctor* (Kirby): Marshall (1938) (2), Natvig (1948) (2), Craig (1956) (2, identification not positive), Ross and Horsfall (1965) (1,2), Kalpage and Brust (1968) (1,2), Horsfall and Voorhees (1972) (2), Hinton (1981) (2), Dahl (1997) (2)
- Ochlerotatus riparius* (Dyar and Knab): Craig (1956) (2), Kalpage and Brust (1968) (1,2), Dahl (1997) (2)
- Ochlerotatus rubrithorax* (Macquart): Dobrotworsky (1959) (1,2)¹⁰, (1965) (2), Linley et al. (1991a) (1,2)
- Ochlerotatus rupestris* (Dobrotworsky): Dobrotworsky (1959) (1,2)
- Ochlerotatus rusticus* (Rossi, 1790): Marshall (1938) (2), Natvig (1948) (2), Gillett (1955) (1), Hinton (1981) (2), Service et al. (1997) (1,2), Dahl (1997) (2), Becker et al. (2003) (2)
- Ochlerotatus sagax* (Skuse): Linley et al. (1991b) (1,2)
- Ochlerotatus schizopinax* (Dyar): Myers (1967) (1,2)
- Ochlerotatus scapularis* (Rondani): Forattini (1965a), (2), (1996) (2), (2002) (2)
- Ochlerotatus seoulensis* (Yamada): Feng (1938) (1,2), (1958) (2)
- Ochlerotatus serratus* (Theobald): Mitchell (1907) (1,2), Theobald (1910) (2)
- Ochlerotatus sierrensis* (Ludlow): Myers (1967) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus sollicitans* (Walker): Dyar (1902) (1), Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), DeCoursey and Webster (1952) (2), Craig (1956) (2), Craig and Horsfall (1958) (2), (1960) (1,2), Ross and Horsfall (1965) (1,2), Horsfall et al. (1970) (2), Olson and Meola (1976) (1,2), Scotton and Axtell (1979) (2)
- Ochlerotatus spencerii idahoensis* (Theobald): Myers (1967) (1,2)

⁸ The egg described by Mitchell (1907) was attributed to the synonym *sylvicola* Grossbeck, 1906.

⁹ Eggs described by Dyar (1904c), Howard et al. (1917), Craig (1956), Kalpage and Brust (1968), and Horsfall and Voorhees (1972) were attributed to the synonym *trichurus* (Dyar, 1904c).

¹⁰ The egg described by Dobrotworsky (1959) was attributed to the synonym *queenslandis* Strickland, 1911.

- Ochlerotatus spencerii spencerii* (Theobald): Kalpage and Brust (1968) (1,2)
- Ochlerotatus spinosipes* (Edwards): Marks (1964) (1,2)
- Ochlerotatus squamiger* (Coquillett): Howard et al. (1917) (1), Craig (1956) (2), Myers (1967) (1,2)
- Ochlerotatus sticticus* (Meigen): Mitchell (1907) (1,2)¹¹, Martini (1929–31) (1,2), Craig (1956) (2), Horsfall and Craig (1956) (1,2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Myers (1967) (1,2), Kalpage and Brust (1968) (1,2), Horsfall et al. (1970) (2), Trpis et al. (1973) (2), Hinton (1981) (2), Dahl (1997) (2)
- Ochlerotatus stimulans* (Walker): Mitchell (1907) (1,2)¹², Craig (1956) (2), Horsfall and Craig (1956) (1,2), Craig and Horsfall (1958) (2), Ross and Horsfall (1965) (1,2), Kalpage and Brust (1968) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus surcoufi* (Theobald): Arnaud et al. (1976) (1,2)
- Ochlerotatus taeniorhynchus* (Wiedemann): Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), Craig (1956) (2), Myers (1967) (1,2), Craig and Horsfall (1960) (1,2), Hinton (1981) (2), Ritchie and Johnson (1989) (2), Scotton and Axtell (1979) (2)
- Ochlerotatus terrens* (Walker): dos Santos Neto and de Azevedo Marques (1996) (1,2)
- Ochlerotatus theobaldi* (Taylor): Linley et al. (1991b) (1,2)
- Ochlerotatus thibaulti* (Dyar and Knab): Craig (1956) (2), Craig and Horsfall (1958) (2), (1960) (1,2), Ross and Horsfall (1965) (1,2)
- Ochlerotatus tormentor* (Dyar and Knab): Howard et al. (1917) (1)
- Ochlerotatus triseriatus* (Say): Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), Craig (1956) (2), Horsfall and Craig (1956) (1,2), Ross and Horsfall (1965) (1,2), Kalpage and Brust (1968) (1,2), Pratt and Kidwell (1969) (1,2), Horsfall et al. (1970) (2), Zaim et al. (1977) (1,2), Hinton (1981) (2), Linley (1989a) (1,2), Linley and Craig (1993) (1,2)
- Ochlerotatus trivittatus* (Coquillett): Abdel-Malek (1949) (1,2), Craig (1956) (2), Horsfall and Craig (1956) (1,2), Ross and Horsfall (1965) (1,2), Horsfall et al. (1970) (2)
- Ochlerotatus varipalpus* (Coquillett): Dyar (1904b) (1,2), Craig (1956) (2), Craig and Horsfall (1958) (2), Myers (1967) (1,2)
- Ochlerotatus ventrovittis* (Dyar): Myers (1967) (1,2)
- Ochlerotatus vigilax* (Skuse): Kay and Jorgensen (1986) (1,2), Linley et al. (1992b) (1,2)
- Ochlerotatus vittiger* (Skuse): Linley et al. (1992b) (1,2)
- Opifex fuscus* Hutton: Kirk (1923) (1,2), Haeger and Provost (1965) (1), Mattingly (1970c) (1,2)
- Psorophora albipes* (Theobald): Forattini (1965a) (2)
- Psorophora albigena* (Peryassu): Forattini (1996) (2), (2002) (2)
- Psorophora discolor* (Coquillett): Howard et al. (1913) (2), (1917) (1)
- Psorophora discrucians* (Walker): Forattini (2002) (2)
- Psorophora ciliata* (Fabricius): Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), Schwartd (1939) (2), Horsfall et al. (1952) (1,2), (1970) (2), Ross and Horsfall (1965) (1,2)
- Psorophora cingulata* (Fabricius): Linley and Chadee (1990) (1,2)
- Psorophora columbiae* (Dyar and Knab): Howard et al. (1913) (2), (1917) (1), Horsfall et al. (1952) (1,2), (1970) (2)¹³, Craig (1955) (2)¹³, Ross and Horsfall (1965) (1,2)¹³, Bosworth et al. (1983) (1,2), (1998) (2), Linley and Chadee (1990) (1,2), Lee et al. (1994) (2), Linley et al. (1998) (2)
- Psorophora cyanescens* (Coquillett): Schwartd (1939) (1,2), Ross and Horsfall (1965) (1,2), Horsfall et al. (1970) (2)
- Psorophora discolor* (Coquillett): Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), Horsfall et al. (1952) (1,2), Ross and Horsfall (1965) (1,2)
- Psorophora discrucians* (Walker): Howard et al. (1917) (1), Forattini (1996) (2)
- Psorophora ferox* (von Humboldt): Goeldi (1905) (1,2)¹⁴, Theobald (1907) (2)¹⁵, Mitchell (1907) (1,2)¹⁶, Howard et al. (1913) (2), (1917) (1)¹⁵, Pawan (1922) (1,2)¹⁶, Horsfall et al. (1952) (1,2), (1970) (2), Forattini (1965a) (2), Ross and Horsfall (1965) (1,2), Linley and Chadee (1990) (1,2)
- Psorophora horrida* (Dyar and Knab): Howard et al. (1913) (2), (1917) (1), Horsfall et al. (1952) (1,2), (1970) (2), Ross and Horsfall (1965) (1,2)
- Psorophora howardii* Coquillett: Mitchell (1907) (1,2), Howard et al. (1913) (2), (1917) (1), Horsfall et al. (1952) (1,2), (1970) (2), Ross and Horsfall (1965) (1,2)

¹³ Eggs of this species described by Horsfall et al. (1952, 1970), Craig (1955), and Ross and Horsfall (1965) were attributed to the name *confinis* (Lynch Arribalzaga). The distributions of *Ps. columbiae* and *Ps. confinis* are discussed by Belkin et al. (1970) and Bickley (1984).

¹⁴ The egg described by Goeldi (1905) was attributed to the synonym *musica* Say, 1829.

¹⁵ Theobald (1907) and Howard et al. (1913, 1917) attributed the eggs of this species to the synonym *sayi* Theobald, 1907.

¹⁶ The eggs described by Mitchell (1907) and Pawan (1922) were attributed to the synonym *posticota* Wiedemann, 1821.

¹¹ Mitchell (1907) attributed the egg of this species to the synonym *pretans* Grossbeck, 1904.

¹² The egg described by Mitchell (1907) was attributed to the synonym *subcantans* Felt, 1905.

- Psorophora jamaicensis* (?) (Theobald): Mitchell (1907) (1,2)¹⁷
- Psorophora johnstoni* (Graham): Thurman et al. (1951) (1,2)
- Psorophora lutzii* (Theobald): Goeldi (1905) (1,2), Theobald (1907) (2)
- Psorophora mathesonii* Belkin and Heinemann¹⁸: Mitchell (1907) (1,2), Horsfall et al. (1952) (1,2), (1970) (2), Craig (1955) (2), Ross and Horsfall (1965) (1,2)
- Psorophora pygmaea* (Theobald): Theobald (1907) (1,2)
- Rhinokusea longirostris* (Leicester): Mattingly (1974) (1,2)
- Skusea pombaensis* (Theobald): Goiny et al. (1957), Mattingly (1959) (2)
- Stegomyia aegypti* (Linnaeus): Goeldi (1905) (1,2)¹⁹, Howard et al. (1913) (2), (1917) (1)²⁰, Martini (1929–31) (2)¹⁹, Craig (1956) (2), Craig and Horsfall (1958) (2), (1960) (1,2), Christophers (1960) (1,2), Ross and Horsfall (1965) (1,2), Hinton and Service (1969) (2), Pratt and Kidwell (1969) (1,2), Horsfall et al. (1970) (2), Matsuo et al. (1972c) (1,2), (1974a) (1,2), Moriya et al. (1973) (1,2), Harbach and Knight (1978) (2), (1980) (2), Hinton (1981) (2), Linley (1989b) (1,2), (2), Jarial (2001) (1,2)
- Stegomyia africana* Theobald: Gillett (1955) (2), Linley et al. (1993a) (1,2)
- Stegomyia albopicta* (Skuse): Banks (1908) (1,2), Bullock (1960) (2), Pratt and Kidwell (1969) (1,2), Matsuo et al. (1972a) (2), (1972b) (2), (1972c) (1,2), (1974a) (1,2), Moriya et al. (1972) (2), (1973) (1,2), Linley (1989) (1,2), dos Santos Neto and de Azevedo Marques (1996) (2), Linley et al. (1998) (2)
- Stegomyia alcasiidi* (Huang): Matsuo et al. (1974a) (1,2)
- Stegomyia annandalei* Theobald: Mathis (1938) (2), Matsuo et al. (1974a) (1,2), Hinton (1981) (2)
- Stegomyia chemulpoensis* (Yamada): Feng (1938) (2), (1958) (2), Bullock (1960) (2)
- Stegomyia cooki* (Belkin): Tompkins and Williams (1977) (1)
- Stegomyia daitensis* (Miyagi and Toma): Miyagi and Toma (1980) (1,2)
- Stegomyia dendrophila* (Edwards): van Someren (1946) (1,2)
- Stegomyia desmotes* Giles: Matsuo et al. (1974a) (1,2)
- Stegomyia flavopicta* (Yamada): Moriya et al. (1973) (1,2), Matsuo (1975) (1,2)
- Stegomyia gardnerii imitator* Leicester: Matsuo et al. (1974a) (1,2)
- Stegomyia hansfordi* (Huang): van Someren (1946) (1,2)²¹
- Stegomyia katherinensis* (Woodhill): Linley and Service (1995) (1,2)
- Stegomyia malayensis* (Colless): Tompkins and Williams (1977) (1)
- Stegomyia novalbopicta* (Barraud): Amerasinghe (1983) (2)
- Stegomyia perplexa* Leicester: Matsuo et al. (1974a) (1,2)
- Stegomyia polynesiensis* (Marks): Wallis (1954) (2), Hinton (1981) (2), Linley and Service (1995) (1,2)
- Stegomyia pseudalbopicta* Borel: Matsuo et al. (1974a) (1,2)
- Stegomyia pseudoscutellaris* Theobald: Paine (1943) (1), Hinton (1981) (2)
- Stegomyia scutellaris* (Walker): Buxton and Hopkins (1925) (1,2)²²
- Stegomyia tabu* (Ramalingam and Belkin): Tompkins and Williams (1977) (1)
- Stegomyia woodi* (Edwards): Mattingly (1971d) (2), Hinton (1981) (2), Linley and Service (1994) (1,2)
- Tanakaius togoi* (Theobald): Bullock (1960) (2), Hinton and Service (1969) (2), Matsuo et al. (1972b) (2), (1972c) (1,2), (1974a) (1,2), Moriya et al. (1972) (2), (1973) (1,2), Hinton (1981) (2), Linley and Chan (1991) (1,2)
- Verrallina butleri* (Theobald): Matsuo et al. (1974b) (1,2)
- Verrallina carmenti* (Edwards): Huang (1968) (1,2)
- Verrallina dux* (Dyar and Shannon): Reinert (1974) (1,2)
- Verrallina funerea* (Theobald): Huang (1968) (1,2), Linley et al. (1991c) (1,2)
- Verrallina lineata* (Taylor): Huang (1968) (1,2)
- Verrallina nobukonis* (Yamada): Moriya et al. (1973) (1,2)
- Verrallina parasimilis* (King and Hoogstraal): Huang (1968) (1,2)
- Zavortinkius longipalpis* (Gruenberg): Gillett (1955) (1)

¹⁷ The egg described by Mitchell (1907) as *Ps. jamaicensis* probably belongs to another species because the distribution of *Ps. jamaicensis* is outside the United States.

¹⁸ Eggs described under the name *varipes* Coquillett, 1904, from the southeastern United States are presumed to be *Ps. mathesonii* (some authors did not list geographic sources of eggs described) (see discussion on distributions of *Ps. mathesonii* and *Ps. varipes* by Belkin and Heinemann, 1975).

¹⁹ The egg described by Goeldi (1905) and Martini (1929–31) was attributed to the synonym *fasciata* Fabricius, 1805.

²⁰ Howard et al. (1913, 1917) attributed the egg of this species to the synonym *calopus* Meigen, 1818.

²¹ The egg described by van Someren (1946) as *Aedes (Stegomyia) deboeri* subspecies *demeilloni* Edwards was attributed by Huang (1997) to the new species *Ae. (Stg.) hansfordi*.

²² The egg described by Buxton and Hopkins (1925) was attributed to the synonym *variegatus* Doleschall, 1858.

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